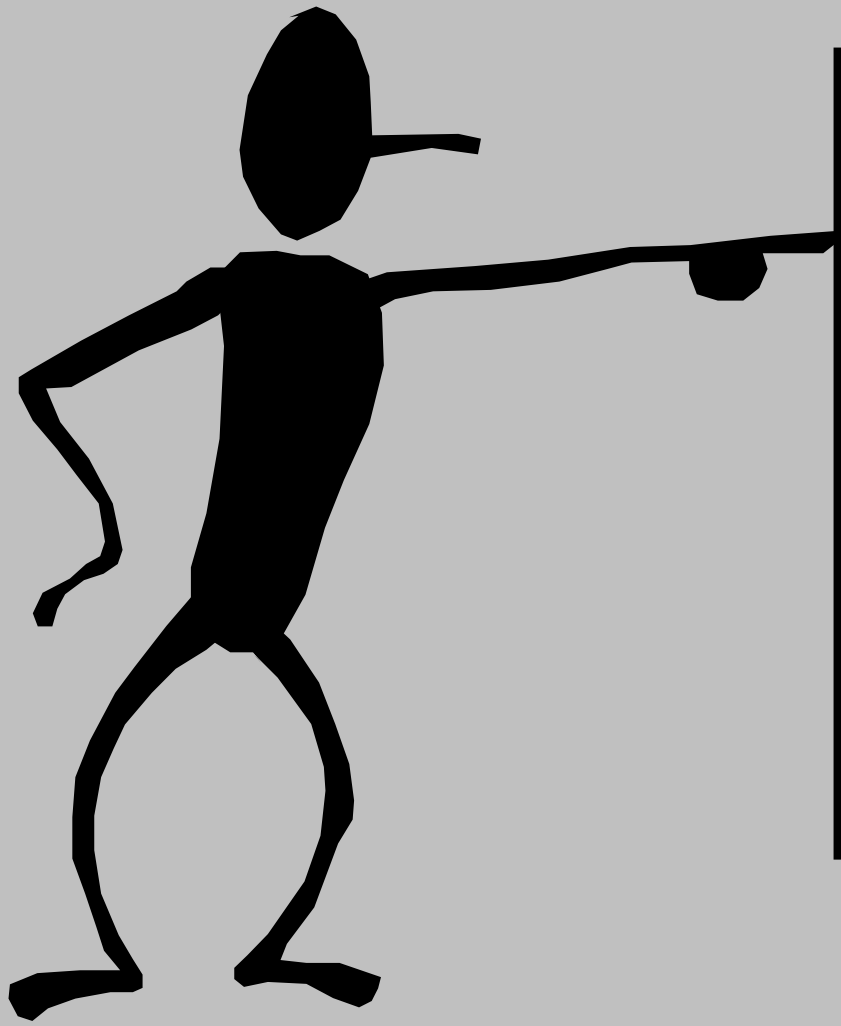
BATTERY CHARGER SET-UP AND OPERATION

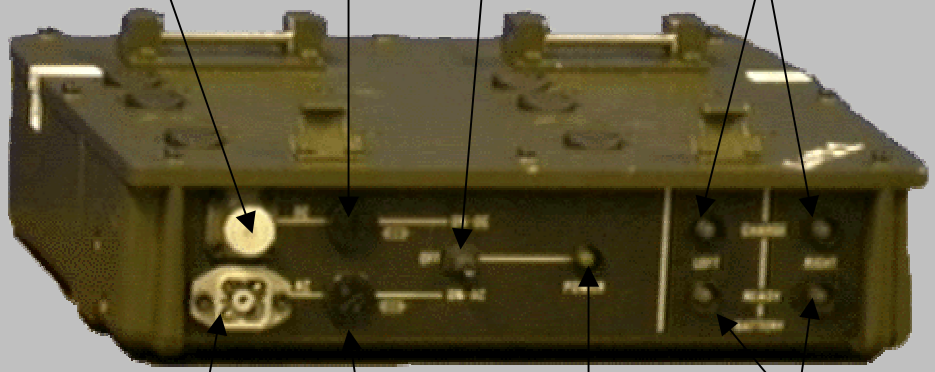
OBJECTIVE



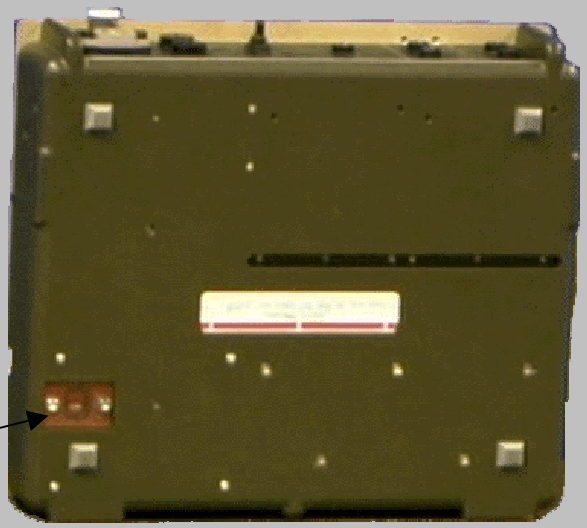
YOU WILL KNOW HOW TO OPERATE THE BATTERY CHARGER, THE DIFFERENCE BETWEEN U.S. AND EUROPEAN VOLTAGE, AND HOW TO USE OF THE POWER ADAPTER.

BATTERY CHARGER

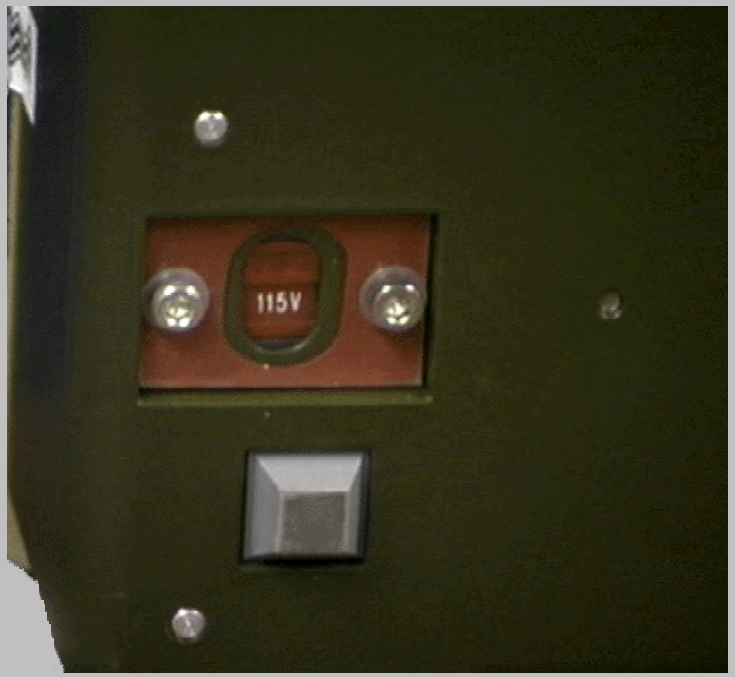
FRONT VIEW

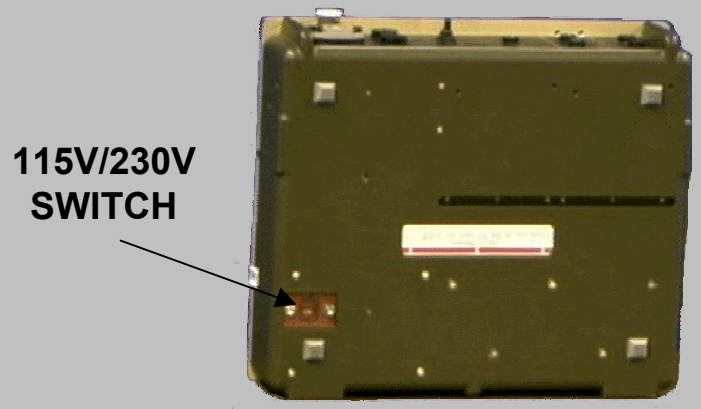


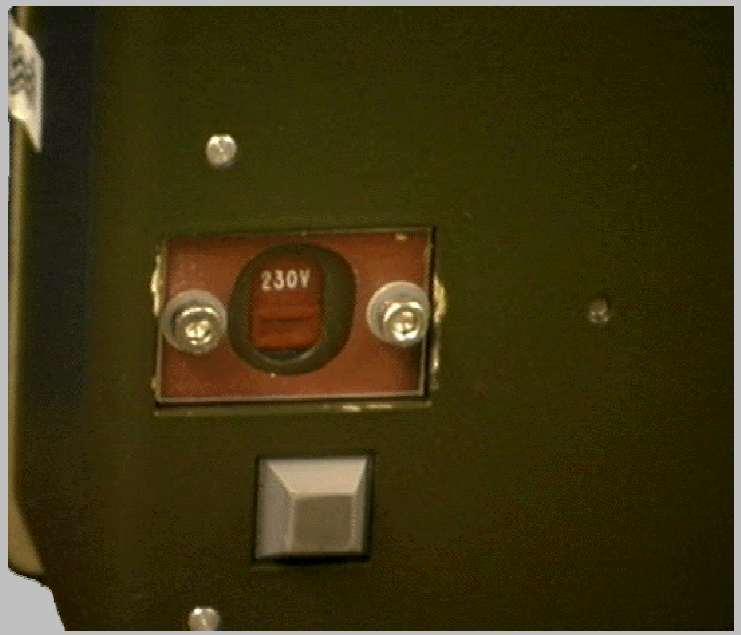
BOTTOM VIEW



115V/230V SWITCH

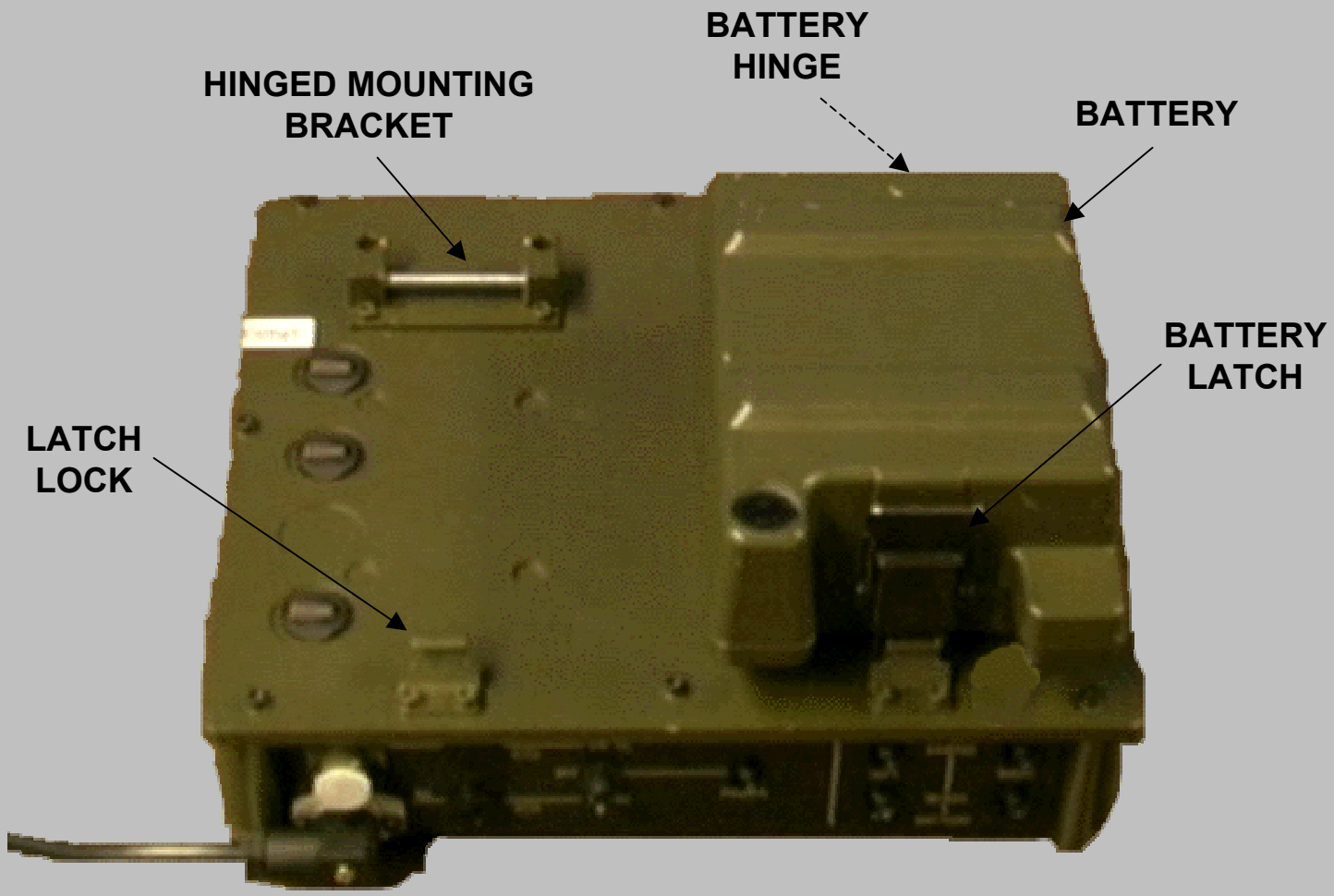




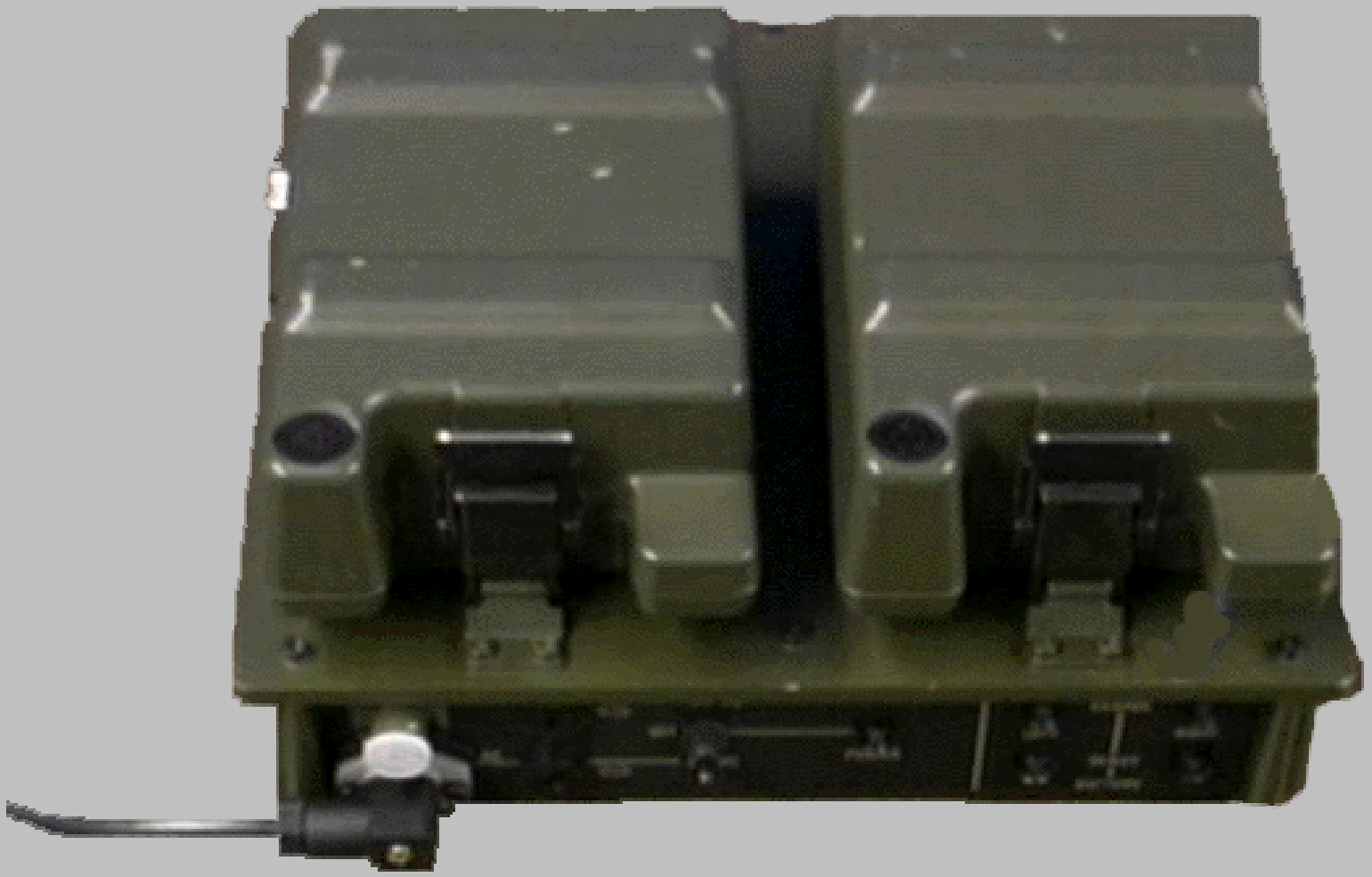


AC POWER SOURCE CONNECTION

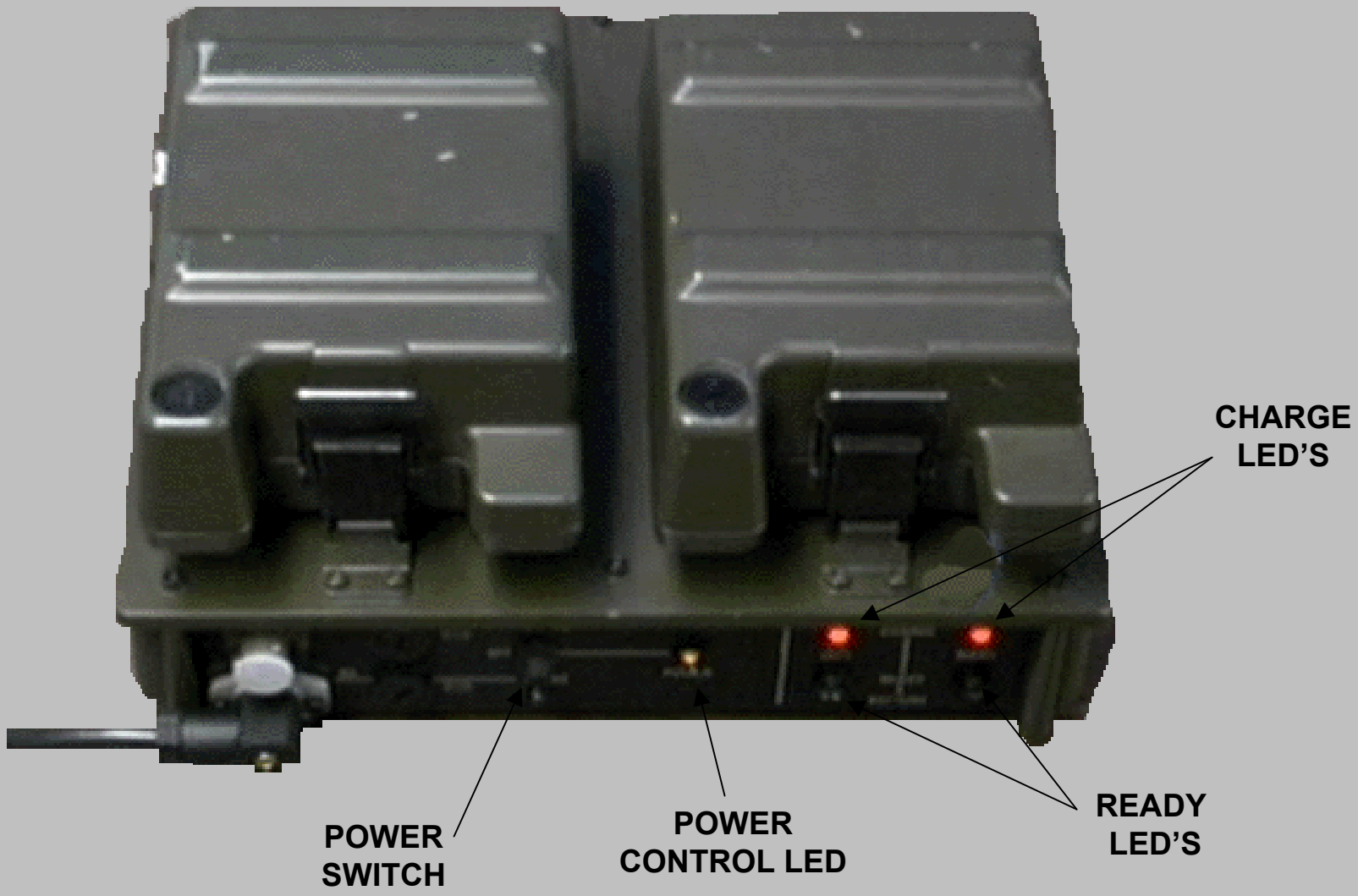
ONE BATTERY INSTALLED



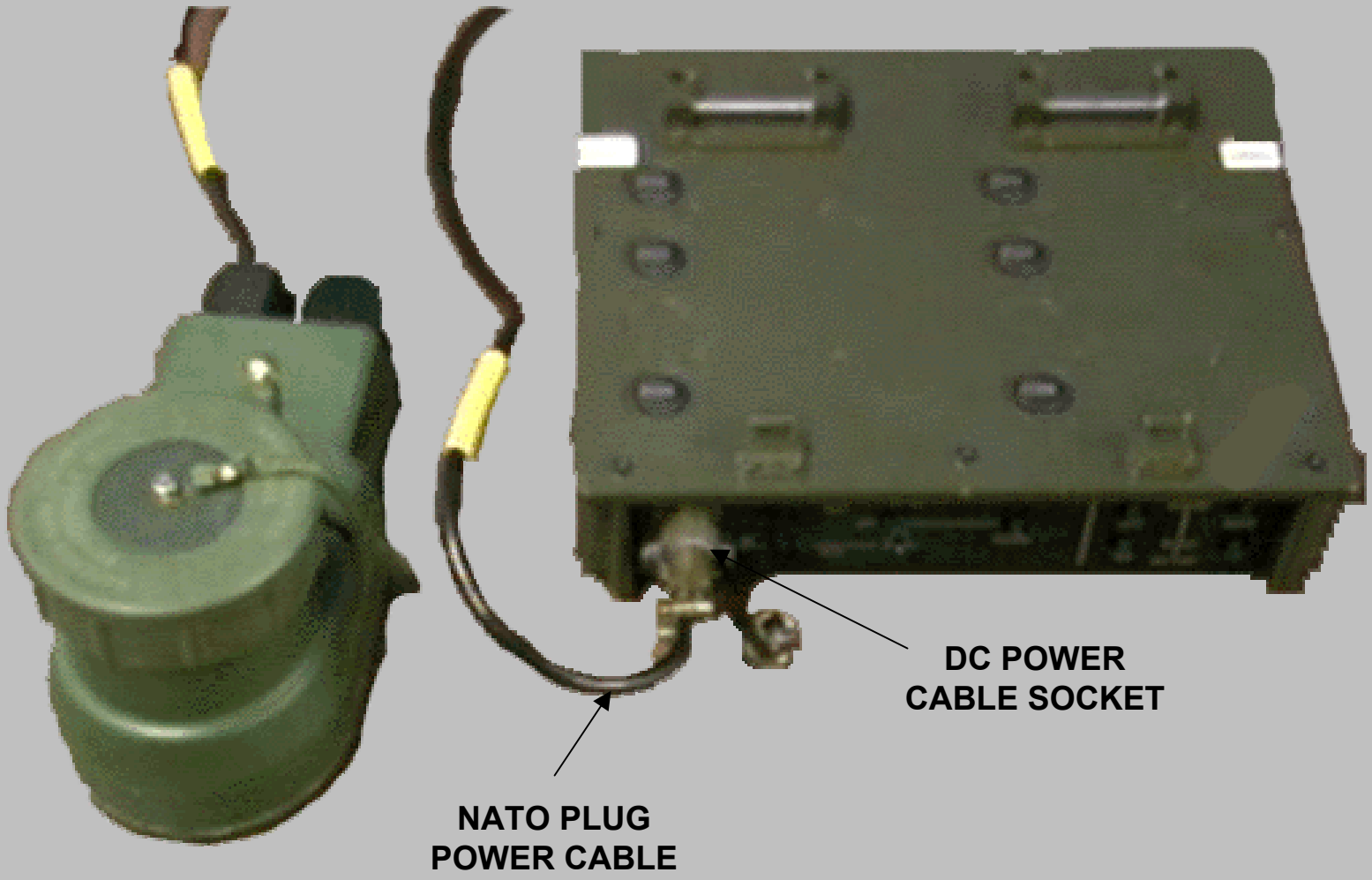
TWO BATTERIES INSTALLED



AC OPERATION



DC POWER SOURCE CONNECTION



ADDITIONAL BATTERY INFORMATION

AT TEMPERATURES BETWEEN +14° AND +122° F, IT WILL TAKE UP TO SEVEN HOURS TO CHARGE AN EMPTY BATTERY. AT TEMPERATURES BELOW +14° F, IT MAY TAKE UP TO 14 HOURS TO FULLY RECHARGE THE BATTERY.

DISPOSE OF BATTERIES IN ACCORDANCE WITH ESTABLISHED MILITARY, FEDERAL, AND LOCAL PROCEDURES TO PRECLUDE DAMAGE TO THE ENVIRONMENT.

TO MAXIMIZE THE EFFICIENCY OF NEW BATTERIES, DISCHARGE AND RECHARGE THEM THREE TIMES. TO DISCHARGE, USE THE SYSTEM UNTIL "BATTERY LOW" WARNING, BUT CONTINUE TO USE THE SYSTEM UNTIL "BATTERY EMPTY" WARNING, THEN RECHARGE. THIS PROCEDURE WILL PROPERLY CONDITION THE NEW BATTERIES.

BATTERY SEB42-1 FOR GLPS SYSTEM

Recommendation and Tips

The SEB42-1 GLPS battery is a standard NiCad battery as it is used for many consumer products. Its' rugged and special design make it applicable to military purposes. The SEB42-1 consists of 20 rechargeable NiCad cells in series, each of 1.2 Volts and 1.2 Ah.

New Batteries:

Batteries are **not** charged when delivered from factory. Prior to use for the first time, they must be charged with the SLG6-1 battery charger. Due to physical reasons, a battery will **not** reach its' full capacity with the first charging cycle. This means that the user can probably not run 20 missions with this charged battery. The battery will reach its full capacity after about 4 to 5 charging/discharging cycles (see "Conditioning" below).

Stored Batteries:

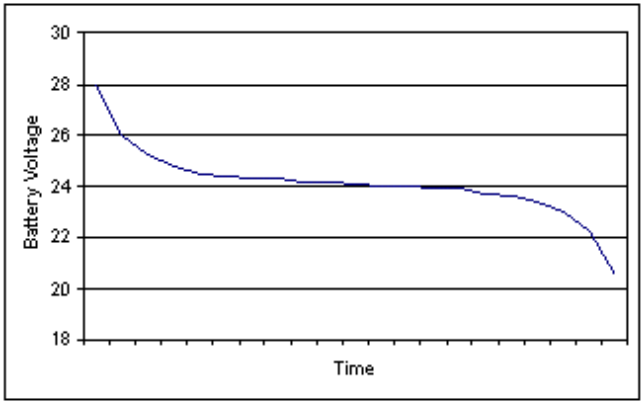
When a battery is stored for an extended period, it will be completely discharged. This is normal for NiCad batteries. Such a battery will have the same behavior as a new battery. That means it will not reach its full capacity with the first recharging cycle. Depending on the period it has not been used, it will reach its' full capacity after about 3 to 5 charging/discharging cycles.

Charging/Discharging:

Use the SLG6-1 battery charger to charge the SEB42-1 (see Operator Manual). As with every NiCad battery, the SEB42-1 should be used until completely discharged and then recharged to its' full capacity. This procedure will reduce the memory effect of the NiCad cells to its' minimum; and, therefore, extend the life cycle of a battery.

Charging:

If a new battery is charged for the first time, leave it on the SLG6-1 battery charger for approximately 12 hours after the green light has turned on to charge it completely. Charge the batteries at room temperature, if possible. Hot or cold temperatures will not allow batteries to completely charge. The voltage of a fully charged battery can rise up to more than 26 Volts, depending on the temperature. When using the battery, the voltage will drop down to a medium level quite fast and will remain there for a longer time before dropping down faster again at the end of its' capacity (see drawing below).



Discharging:

Discharge the battery completely (down to 22 Volts) before recharging. Use either the GLPS or the Discharger for this purpose.

GLPS: Use the GLPS system in normal operation until the display says "Battery empty". If you want to force discharging a battery with the GLPS, turn on the keyboard and display illumination and perform several positioning procedures, running the gyro until the T502S display shows "Battery empty". DO **NOT** TURN ON THE TARGET ROD AND WALK AWAY !! The target rod is connected directly to the battery and will discharge the SEB42-1 down to an irreversible level. The battery is then destroyed!

Discharger: Use the delivered discharger to discharge the battery in a controlled manner.

If the battery cannot be discharged to its' empty level due to tactical reasons for several cycles, perform a conditioning procedure as described below after about 20 to 30 recharging cycles. This will decrease the memory effect of the NiCad cells and, therefore, increase the battery life cycle.

Conditioning:

New batteries (or batteries which have been stored for a long period) have to be conditioned to get their full capacity. Perform such a conditioning procedure at room temperature if possible.

Conditioning by the user: Charge the battery on the SLG6-1 until the green light is turned on. Leave it for an additional 6 to 12 hours to charge it completely. Use the battery in normal use until the GLPS system says "Battery empty". Be aware that probably less than 20 missions can be performed. Recharge the empty battery again as described above. After about 4 to 5 such charging/discharging cycles, the battery will reach its full capacity.

Conditioning with discharger: Exactly the same as described above, but discharge the battery on the discharger.

Storage/Use:

Store the unused SEB42-1 batteries in a dry, cool place (5°-10° C). It does not matter if the batteries are stored in a charged or uncharged condition. The batteries will lose their capacity anyway. Use the batteries periodically. This will increase the battery's life cycle.

Maintenance:

Look for proper contacts at the SEB42-1 battery, the SKK3-08 gyroscope as well as the SLG6-1 Battery Charger. Clean the contacts periodically.

Summary:

All the above are tips and recommendations only. Proper treatment of the SEB42-1 battery will extend its life cycle and secure the specified capacity.